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NEWER CALCAREOUS SPONGES FROM THE WETTERSTEIN REEF LIMESTONE OF ALSÓHEGY KARSTPLATEAU (SILICA NAPPE, WESTERN CARPATHIANS, NORTH HUNGARY)

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INTRODUCTION

Numerous Sphinctozoa (segmented calcareous sponges) and a few Inozoa (non-segmented calcareous sponges) have been worked up since the publication of the first part [BALOGH and KOVÁCS, 1976]. Unfortunately, the great part of the fauna is more or less recrystallized, allowing a generic determination only, or not even that. Despite the fact, that inozoans, mainly belonging to the form-groups of *Peronidella* and *Leiospongia,* are the most frequent reef-building organisms in the Wetterstein Reef Limestone of Alsóhegy, their closer determination is only rarely possible, because they are far less known from thin section than the sphinctozoans.

BALOGH and KOVÁCS [1976] assigned the Wetterstein Limestone of Alsóhegy to be of Ladinian—Cordevolian age. However, this facies of the Silica nappe (at least on Alsóhegy and at Silická Brezová) ranges up to the base of the Tuvalian (KOLLÁROVÁ—ANDRUSOVOVÁ and BYSTRICKÝ, 1974; KOZUR and MOCK, 1974; MIŠÍK and BORZA, 1976; KOVÁCS, 1977]. Therefore, the age of these sponges is Ladinian—Julian (or perhaps Lowermost Tuvalian).

A more exact age can be established in the case of the sponges found on the western half of the Alsóhegy, namely along the forestry road leading from Bódvaszilas to Szabó-parlag and in the environ of Vápenyica-hill, becasue there are sporadic dasycladacean-finds from the reef limestone on both locality. On the former area *Poikiloporella duplicata* (PIA) and *Physoporella heraki* BYSTRICKÝ have been found (thin sections $6/1972/A_1,A_2$) together with *Stylothalamia dehmi* OTT in the same rock sample, while on the latter area *Physoporella heraki* BYSTRICKÝ and *Poikiloporella brezovica* [BYSTRICKÝ] have been found in the thin section 223/1950 B.K., together with *Cryptocoelia* cf. *zitteli* STEINMANN [BALOGH and KOVÁCS, 1976, Pl. 3, *Fig. 5*]. Consequently, the age of the sponges found here is already Carnian.

Three new Sphinctozoa species have been found here, *Vesicocaulis multisiphonatus* n. sp., *Paravesicocaulis concentricus* n. gen. n. sp. and *Verticillites trassicus* n. sp. They will be published elsewhere [KOVÁCS, 1978, in press].

DESCRIPTION

Class: Calcispongea DE BLAINVILLE, 1834
Order: Pharetronida ZITTEL, 1878
Suborder: Inozoa STEINMANN, 1882
Genus: Sestrostomella ZITTEL, 1879

?*Sestrostomella* sp.

Pl. II, *Figs. 1—3*

Material: Two longitudinal sections in thin section 35/1973/B and cross sections of three single and three branching stems in thin section 35 /1973/ F.

Description: Rather recrystallized stems of 2,5—3,1 mm diameter. The length of the longer longitudinal section is 15 mm. The filling structure is of reticular-tubular type. The central channel system consists of 4—6 tubes of about 0,35 mm diameter.

Remarks: This form is resembling to the genus *Sestrostomella* ZITTEL, 1879 by the type of the central channel system consisting of more tubes. Closer determination is impossible because of the recrystallisation.

Locality: On the southern slope of Vápenyica-hill.

Genus: *Corynella* ZITTEL, 1879

Corynella sp.

Pl. 1, Fig. 5

Material: One specimen in thin section 35 /1973/ I.

Description: Globular sponge of 16—18 mm diameter. The skeleton is reticular, with radial epirrhysae and concentrical aporrhysae.

Remarks: This form is resembling in shape and in the arrangement of the epirrhysae and the aporrhysae to the forms described by VINASSA DE REGNY: *Corynella rauffi* [1901, p. 8—9, text-figs. 1—2, Pl. 2, Figs. 1—4] and *Corynella ritae* [1907, p. 7—8, text.-fig. 1, Pl. 2, Fig. 2—5].

Locality: On the southern slope of Vápenyica-hill.

Genus: *Peronidella* HINDE, 1893

Peronidella aff. *loretzi* [ZITTEL, 1879]

Pl. I, *Fig. 3—4*

Material: Two specimens in thin sections T—204/1974 and 34/1973/C.

Description: In the thin section T—204/1974 the axial section of a 11,2 mm long, cylindrical, slightly curved stem can be seen. Its diameter is 4 mm, while that of the central channel is 1 mm.

In the other thin section a cross section is visible; its diameter is 6 mm, that of the central channel is 2 mm. Its skeleton is somewhat coarser than that of the former. Reticular filling structure, which is thickened toward both the outer and inner walls.

Remarks: This form differs from *Peronidella loretzi* [ZITTEL] only in size; this is about one-fifth of that [the average max. diameter of that is 20 mm, according to DIECI *et al.*, 1970, p. 118].

Locality: On the western part of Alsóhegy, north of Vápenyica-hill.

Peronidella cf. *subcaespitosa* (MÜNSTER, 1841)

Pl. I, *Fig. 1*

Material: One exemplar in thin section 19 /1972/ D.

Description: Slightly oblique section of a 28 mm long, curved stem. Its diameter is below 4,3, above 7,3 mm. Besides the central channel of 1,5 mm diameter there are secondary channels of 0,4—0,7 mm diameter, too; they are also longitudinal.

Remarks: This form is similar to *Peronidella subcaespitosa* [MÜNSTER, 1841] by having longitudinal secondary channels. However, sure identification is impossible, because of the poor preservation.

Locality: On the side of the forestry road from Bódvaszilas to Szabó-parlag.

Genus: *Leiospongia* d'ORBIGNY, 1849

Leiospongia sp.

Pl. I, *Fig. 6*

Material: One exemplar on the weathered rock surface of the hand-specimen 2/1972.

Description: A circular cross-section of a stem is visible on the weathered rock surface, the diameter of which is 30 mm. Coarse reticular skeleton. The sponge has no central channel.

Locality: Along the forestry road, leading from Bódvaszilas to Szabó-parlag.

Suborder: Sphinctozoa STEIMANN, 1882
Superfamily: Aporata SEILACHER, 1962
Family: Thaumastocoeliidae OTT, 1967
Genus: *Sollasia* STEIMANN, 1882

Sollasia sp.

Pl. III, *Figs. 1—3*

Material: One exemplar in thin sections T—467/A_1 and T—467/A_2.

Description: In the thin section T—467/A_1 a catenulate stem consisting of three chambers can be seen. The shape and the diameter of the chambers are different: the lower one is elongated, the middle one is subspheroidal, and the considerably larger upper one is irregular-globular. Their diameter are 5,9, 6,8 and 10,5 mm. The central channel is of cryptosiphonate type. It can be seen at the contact of the lower and the middle segments and narrows upwardly (diameter below 2,4, above 1,4 mm). The chambers are filled with vesiculae. The 0,3—0,45 mm thick wall consists of two layers, an outer, thicker spherolitic one and an inner, thinner micritic one. The wall is pierced by ostiae of 0,1—0,25 mm diameter.

In the thin section T—467/A_2 a tangential section of the spherolitic outer layer of the wall (Pl. III, *Fig. 2*) and a part of a chamber can be seen. The ostiae (diameter: 0,12—0,27 mm) of the former seem to be grouped into a sieve-field (?).

Remarks: This form corresponds to the genus *Sollasia* STEINMANN by the double wall, the outer layer of which is spherolitic, and by the fact, that the lower two chambers are connected with a single, large opening.

Locality: On the southern slope of Alsóhegy above the quarry east of Tornanádaska.

Family: Celyphiidae DE LAUBENFELS, 1955
Genus: *Follicatena* OTT, 1967

Follicatena cautica OTT, 1967

Pl. IV, *Fig. 5*

Follicatena cautica — OTT, 1967b, p. 22, Pl. 1, *Figs.* 1—7; *F. cautica* — JABLONSKÝ, 1971, p. 336, *Figs. 1—2; F. cautica* — JABLONSKÝ, 1974, p. 190, Pl. 17, *Fig. 1; F. cautica* — BALOGH and KOVÁCS, 1976, p. 298—299, Pl. 1, *Fig. 2;* Pl. 3, *Fig. 2.*

Material: One exemplar in thin section 7/1972.

Description: A single, curved stem of 4,3 max. diameter. The 0,15—0,6 mm thick wall is pierced by ostiae; their diameter is 0,06—0,12 mm. In the uppermost chamber three ostiae are grouped into a sieve-field. Chambers are filled with vesiculae.

Locality: On the side of the forestry road from Bódvaszilas to Szabó-parlag.

Follicatea cf. *cautica* OTT

Pl. IV, *Fig. 2*

Material: 4 exemplars in thin section T—496/B, E, H and T—495/A.

Description: Catenulate stems built up by subspheroidal chambers of 3,2—**5,2**—6,4 mm diameter and 3,1—**4,6**—5,6 mm height. The 0,2—0,6 mm thick wall is totally recrystallized, but the ostiae of 0,2 mm diameter still can be seen. The wall is doubled at the segment-contacts. The inner of the chambers is generally filled with two calcite generations; the first, overgrown on the wall, is fibrous, the second is mosaic, but there is micrite in some chambers instead of it. In some places ghosts of vesiculae can be seen.

Remarks: The more important features coincide with the specific marks of *Follicatena cautica* OTT (measurements, ostiae, doubled wall at the segment-contacts), but because of the total recrystallization only a determination as cf. is possible.

Locality: Vecsembükk, north of Bódvaszilas.

Follicatena n. sp.

Pl. IV, *Figs. 3—4*

Material: One exemplar in thin section T—124 /1974/ A.

Description: Two ovaloid, elongated chambers of 3,6 mm max. width and 7,5, resp. 7,0 mm height. They are filled with vesiculae. The thickness of the wall, doubled at the segment contact, is between 0,3—0,6 mm. Fairly regularly and densely settled spiculae of 0,03—0,06 mm diameter can be seen in it. It is covered outside by an epidermis of 0,12—0,24 mm thickness, which consists of an inner, rime-like, dark, micritic part and an outer, light, sparitic part. (Pl. IV, *Fig. 4*) A sieve-field can be seen on both chambers: the lower one consists of three, the upper one from six ostiae. The diameter of the ostiae is 0,12 mm or so.

Remarks: This form differs from *Follicatena cautica* OTT by the width/height rate, which is 0,5, while at that species mostly 1,0 (even such rate cannot be seen on the width/height diagramm of that — OTT, 1967, p. 21). Furthermore, the rime-like epidermis has not been mentioned by OTT and cannot be seen on his figures. However, establishing a new species is unfounded, because of the only two chambers.

Locality: NNW of the Pasnyak-spring, on the edge of the plateau.

Genus: *Vesicocaulis* OTT, 1967

Vesicocaulis carinthiacus OTT, 1968

Pl. V, *Fig. 2*

Vesicocaulis carinthiacus — OTT, in KRAUS and OTT, 1968, p. 276—277, Pl. 20, *Figs. 2-4; V. carinthiacus* — WOLFF, 1973, Abb. 4, Fig. 4; *V. carinthiacus* — JABLONSKÝ, 1974, p. 191—192, Pl. 67, *Fig. 2.*

Material: Two stems in thin section T—500/A.

Description: The diameter of the stems, built up by flat, pressed chambers, is 2,1—2,3 mm, resp. 2,2 mm. The width/height index of the segments is 2,33 (measured on 16 chambers). The central channel system, the width of which is 1,05, resp. 1,2 mm, is composed of more tubes of 0,4—0,6 mm diameter. The wall (thickness: 0,06—0,09 mm) is pierced by ostiae of 0,03—0,06 mm. Vesiculae can only be found in one stem. The moderately developed reticular mantle of the central channel system can only be seen in some places.

Remarks: Though the width/heigth index of our exemplars is somewhat greater than those reported by OTT in the original description [1,88, in KRAUS and OTT, 1968, p. 277], all characteristic features correspond to *Vesicocaulis carinthiacus* OTT.

Locality: Vecsembükk, north of Bódvaszilas.

Vesicocaulis depressus OTT, 1967

Pl. V, *Figs. 1, 4*

Vesicocaulis depressus — OTT, 1976, p. 26, Pl. 3, *Figs. 1—4; V. depressus*— DIECI, ANTONACCI and ZARDINI, 1970, p. 138, Pl. 27, Figs. *14—18; V. depressus* — JABLONSKÝ, 1971, p, 337. text-*fig. 3;* (?) *V.* cf. *depressus* — MIŠIK, 1972, Pl. 20, *Fig. 2; V. depressus* — BALOGH and KOVÁCS, 1976, p. 299, Pl. 2, *Figs. 1, 3.*

Material: Several exemplars in thin sections 35/1973/A, B, C.

Description: The curved, catenulate stems of 2,5—4,2 mm diameter are built up by flat, shield-like overlapping segments. The height of the segments is 0,55—0,9 mm, their width/height index is between 3,5—5. The central channel system takes about the half diameter of the sponge and consists of 3—6 tubes of 0,3—0,45 mm diameter. The thin (0,06—0,12 mm) wall is pierced by ostiae, the diameter of which is 0,03—0,09 mm. Vesiculae can rarely be found either in the chambers and or in the central channel.

Locality: On the southwestern slope of Vápenyica-hill.

Vesicocaulis cf. *reticuliformis* JABLONSKÝ, 1972

Pl. V, *Fig. 3*

Vesicocaulis carinthiacus — JABLONSKÝ, 1971, p. 338—339, text-*fig. 4; Vesicocaulis reticuliformis* — JABLONSKÝ, 1972, p. 361—364, text-*figs. 1—5.*

Material: One exemplar in thin section T—124/B.

Description: A catenulate stem built up by four globular chambers. Its max. diameter is 4,9 mm, the height of the chambers is 2,3—4,6 mm. The chambers are filled with reticular filling structure, but there are vesiculae in them, too. The diameter of the central channel system is 2 mm or so. Three tubes of 0,4—0,5 mm diameter can be seen from this system in the thin section. Wall-thickness is 0,15—0,3 mm.

Remarks: The main features of this form corresponds to *Vesicocaulis reticuliformis* JABLSHÝ, 1972,ONKstbu e tegments are almost as high as wide, while at that species they are 2—3 times wide as high [JABLONSKÝ, 1972, p. 363].

Locality: On the edge of the plateau, NNW of Pasnyak-spring.

Superfamily: Porata SEILACHER, 1962
Family: Guadalupiidae GIRTY, 1908
Genus: *Guadalupia* GIRTY, 1908

?Guadalupia sp.

Pl. VI, *Fig. 4*

Material: One exemplar in thin section 2 /1972/ B.

Description: A half cross section of a stem of 7 mm diameter can be seen in the thin section. It is built up by tube-like, vertical chambers, the shorter diameter of which is 0,6—1,05 mm. They are arranged in one layer around the central channel of 2,2 mm diameter. The thickness of the wall is 0,09—0,15 mm. Closely packed pores of 0,05 mm diameter pierce the outer and the inner wall and connect the vertical chambers. Neither filling structure, nor vesiculae can be seen.

Locality: Along the forestry-road leading to Szabó-parlag, northwest of Bódvaszilas.

Family: Cystothalamiidae GIRTHY, 1908

Genus: Cystothalamia GIRTY, 1908

Cystothalamia n. sp.

Pl. IV, *Fig. 1*; Pl. VI, *Fig. 5*

Material: One exemplar in thin section T—313.

Description: Oblique section of about two-third part of a glomerat stem, consisting of flat chambers. Their height is between 0,3—0,7 mm; mostly 0,6 mm; width/height ratio is 3:1—4:1 in most cases. The half-width of the stem is 6,3 mm. The central channel can be seen in full width and does not have a definite wall. Its diameter is 2,9 mm. The 0,06—0,12 mm thick wall is pierced by pores, the diameter of which is 0,1—0,2 mm in the outer wall and 0,06—0,12 mm in the chamber-walls. 3—5 of them open from each chambers. The chamber-walls consist of two layers (Pl. IV, *Fig. 1*), but there is no sharp boundary between them and the lower becomes more and more looser. Vesiculae cannot be seen.

Remarks: This form differs from *Cystothalamia bavarica* OTT by the lack of the thick wall of the central channel, the missing vesiculae and the far more flatter chambers.

Locality: On the southern edge of the plateau of Alsóhegy, east of Tornanádaska, near the eastern end of the reef facies.

?Cystothalamia sp.

Pl. II, *Fig. 6*

Material: Two exemplars in thin sections 35 /1973/ M and T—505.

Description: In the thin section 35 /1973/ M a small glomerat stem can be seen, having a mantle around the central channel consisting of only one layer of chambers, which is hardly developed on the left side. The length of the section is 10 mm, its maximum half-width is 2 mm on the right side. The diameter of the central channel is 1 mm. The thickness of the wall of the chambers is 0,06—0,09 mm, that of the wall of the central channel is 0,09—0,12 mm. The wall is pierced by pores of 0,06—0,09 mm diameter. Vesiculae can be seen in two chambers on the upper part.

In thin section T—505 a cross section of a stem of 6 mm width can be seen. The diameter of the central channel, having a thicker wall, is 1 mm.

Remarks: The shape of the chambers and the thicker wall of the central channel resemble to *Cystothalamia bavarica* OTT [OTT, 1967b, p. 36—38, Pl. 1, *Fig. 8*, Pl. 7,

Fig. 5; JABLONSKÝ, 1971, p. 339—341, *Figs. 5—6*], but the diameters are considerably smaller. The specimen in thin section 35 /1973/ M can be interpreted as a juvenile form. However, a closer determination is impossible because of the imperfect development and preservation.

Locality: On the southwestern slope of the Vápenyica-hill and Vecsembükk.

Family: Sebargasiidae STEINMANN, 1882
Genus: *Colospongia* LAUBE, 1865

Colospongia n. sp.
Pl. II, *Fig. 7*; Pl. III, *Figs. 1, 4*

Material: Four exemplars in thin sections T—467/A_1 and T—467/A_2, which are made from the same hand specimen.

Description: Three of the exemplars consists of upwardly growing chambers. The diameter of the chambers varies from 1,1—1,5 mm of the smallest ones up to 4,1—6,3 mm of the largest ones. The first exemplar (Pl. III, *Fig. 1*) is grown together with a *Sollasia* sp. The size of its chambers regularly grows only up to the third one, the upper ones are irregularly and chaotically arranged. The second exemplar consists of four continouosly growing chambers (Pl. III, *Fig. 4*, at right). The third exemplar (Pl. III, *Fig. 4*, at left) branches above the second chamber. An oncoid is agglutinated in the wall of the left branch. The fourth exemplar (Pl. II, *Fig. 7*) differs from the formers, because the diameter of its chambers remains almost the same upwardly (3,2 mm in the lower and 3,9 mm in the upper one), but completely agrees with them in the character of the wall and the pores.

The thickness of the wall is 0,10—0,45 mm. The diameter of the pores is 0,10—0,15 mm and they are narrowing outwardly. They mostly exist as roof-pores, and can only rarely be found in the outer walls.

Remarks: These forms differs from *Colospongia catenulata* OTT by the outwardly narrowing pores and their smaller number; from *C. semsey* [VINASSA] by their relatively thinner walls and wider pores, as well as smaller sizes; from *C. andrusovi* JABLONSK also by their outwardly narrowing pores and by the fact, that the pores are concentrated on the segment-roofs. The greatest similarity exists with *C. dubia* [MÜNSTER], but they cannot be identified as such because of the lot of irregularities in their shape.

Locality: On the southern slope of Alsóhegy, above the quarry east of Tornanádaska.

Colospongia sp.
Pl. V, *Fig. 5*

Material: One exemplar in thin section T—50.

Description: A slightly oblique section of a branching stem, consisting of spheroidal, hollow chambers, which seem to increase upwardly. The diameter of the larger ones is 5,6—6,3 mm. No vesiculae are in them. The 0,55—0,7 mm thick wall is pierced by densely spaced pores of 0,09—0,12 mm diameter. The pore-density is 12—15/mm^2.

Remarks: This form resembles rathermost to *Colospongia dubia* [MÜNSTER], concerning its upwardly increasing chambers; however, a closer determination is impossible, because of the oblique section. It differs from the above described

Colospongia n. sp. by the more regular form of the chambers and by the fact that the pore-density is the same in the roof and in the side-wall of the chambers.

Locality: At the southern foot of Alsóhegy, about 1 km west of Tornanádaska.

Genus: *Amblysiphonella* STEINMANN, 1882

Amblysiphonella cf. *zitteli* (VINASSA DE REGNY, 1908)

Pl. II, *Fig. 5*

Material: One exemplar in thin section T—484/B.

Description: A 30 mm long, slightly funnel-shaped stem, consisting of 6 ring-chambers. Its diameter is below 13 mm, above 17 mm. The height of the chambers is 3,1—4,4 mm. Only the lower two chambers are relatively intact, the rest, including the central channel, have been injuried during imbedding and recrystallized, so the structure of the sponge is rather disturbed here. The central channel is of primary retrosiphonate type, its diameter is below 1,7, above 2,4 mm. The wall is recrystallized as a whole, so the pores have only rarely been preserved. Wall-thickness changes between 0,4—1,0 mm, the diameter of the visible pores is 0,1—0,15 mm.

Remarks: This exemplar is rathermost resembling to the figures of *Amblysiphonella (Oligocoelia) zitteli* [VINASSA DE REGNY, 1901, p. 16—17, Pl. 1, *Fig. 1—3*], but a sure identification cannot be carried out, because of the poor preservation.

Locality: On the southern edge of the plateau of Alsóhegy, above the Rongyoskút spring, east of Tornanádaska.

Amblysiphonella sp.

Pl. II, *Fig. 4*

Material: One branching exemplar in thin section T—6.

Description: Probably a branching stem; the upper branch contains four, flat segments, the lower, strongly recrystallized one only two of them. The diameter of the upper stem is below 4, above 8 mm, the height of its segments is 1,4—1,7 mm. The recrystallized wall is 0,35—0,5 mm thick and roof pores are preserved in it only in some places.

Locality: The eastern end of the quarry east of Tornanádaska.

Family: Verticillitidae STEINMANN, 1882

Genus: *Verticillites* DEFRANCE, 1869

Verticillites sp.

Pl. VI, *Figs. 1—3*

Material: Five exemplars in thin sections 2 /1972/ A (two exemplars), 2 /1972/ D, T—313/A and T—418/D.

Description: In the latter two thin sections fragments of upwardly widening cylindrical stems, while in the former two ones rather nodular forms can be seen. Their max. diameters are between 13—18 mm. They are built by flat, shield-like overlapping segments filled with loose reticular filling structure, the height of which is 0,55—0,85 mm, mostly 0,7 mm. In the filling structure tubes of 0,35—0,5 mm diameter can be seen, which may be interpreted as prosochaetes and apochaetes (Pl. VI, *Fig. 2*).

Remarks: A closer determination is impossible, because the thin sections avoided the central channel. It seems, that the rather nodular forms in the thin sections 2 /1972/ A and 2 /1972/ D may not belong to the cylindrical *Verticillites triassicus* KOVÁCS.

Locality: Along the forestry road leading from Bódvaszilas to Szabó-parlag and on the southern edge of the plateau east of Tornanádaska.

Family: Cryptocoeliidae STEINMANN, 1882

Genus: *Cryptocoelia* STEINMANN, 1882

Cryptocoelia zitteli STEINMANN, 1882

Pl. VII, *Figs. 4—6*

Cryptocoelia zitteli — STEINMANN, 1882, p. 176—177, Pl. 7, *Figs. 1—2; C. zitteli* — SEILACHER 1962, p. 751; *C. zitteli*—OTT, 1976b, p. 42—44, Pl. 9, *Figs. 5—7; C. zitteli*—DIECI, ANTONACCI and ZARDINI, 1970, p. 149, Pl. 30, *Figs. 8a—10;* Pl. 33, *Fig. 2; C. zitteli* — JABLONSKÝ, 1971, p. 342—343, *Figs. 8—9; C. zitteli* — JABLONSKÝ, 1973, p. 185—187, Pl. 1, *Figs. 1—2,* Pl. 2, *Figs. 1—2; C. zitteli* — JABLONSKÝ, 1974, p. 198, Pl. 68, *Fig. 3;* (?) *C.* cf. *zitteli* — BALOGH and KOVÁCS, 1976, p. 302, Pl. 1, *Figs. 3—4,* Pl. 3, *Fig. 5.*

Material: Several exemplars in hand specimen T—66/1974, from which the thin sections T—66/A,B,C,D,E have been made.

Description: Single or branching, often curved, catenulate stems, consisting of flat, overlapping segments. The diameter of the stems is 3,6—**5,4**—6,5 mm, the height of the chambers is between 1,1—2,1 mm. There is a trabecular filling structure in the chambers. The diameter of the pillars is 0,09—0,15 mm, but they are thickened at their contact with the segment-roofs. The density of the pillars is 5—7/mm^2. Their lamellar structure cannot be seen due to recrystallization. The 0,2—0,3 mm thick walls are pierced by pores of 0,09—0,18 mm diameter. Vesiculae are abundant.

Remarks: These forms stand nearest to those pictured by STEINMANN [1882, Pl. 7, *Fig. 2*] and JABLONSK [1974, Pl. 68, *Fig. 3*]. The thickness of the pillars is smaller and the height of the segments is somewhat greater than those of the forms pictured by OTT [1967b, Pl. 9, *Figs. 5—7*] and JABLONSK [1973, Pl. 1, *Figs. 1—2*; Pl. 2, *Figs. 1—2*], but the thickness of the filling structure has no specific value, according to OTT [1967b, p. 41].

Locality: On the southern edge of the plateau of Alsóhegy, NNW of Tornanádaska, in the near of Hangyás-dolina.

Genus: *Stylothalamia* OTT, 1967

Stylothalamia n. sp. A

Pl. II, *Fig. 8*

Material: Several exemplars in thin sections T—193/C and T—482/F.

Descriptin: In the thin section T—193/C branching stems can be seen, which are likely to represent three exemplars, while there is a 40 mm long single, curved, strongly recrystallized stem in thin section T—482/F. Their diameter is about 5,5 mm and they are built of flat segments of 0,55—0,9 mm height. Central channel retrosiphonate, its diameter is 0,8—1,8 mm. The chambers are filled with trabecular filling structure, consisting of pillars of 0,10—0,15 mm thickness, which are thickened at their ends. The outer wall is thick (0,45—0,75 mm) and no pores are visible in it, due to recrystallization. The segment-roofs are thinner (0,24—0,36 mm) and pierced by pores of 0,1—0,3 mm diameter. Vesiculae cannot be seen.

Remarks: These forms differ from *Stylothalamia dehmi* OTT, 1967 by their considerably coarser skeleton and slender shape, but may not be described as new species, owing to the strong recrystallization.

Locality: On the western slope of Vápenyica-hill and on the plateau northeast of Tornanádaska, on the north-eastern side of Vizes-dolina.

Stylothalamia n. sp. B

Pl. VII, *Fig. 1*

Material: Two exemplars in thin sections T—457 and G—23/1974.

Description: Single, strait stems of 24, resp. 20 mm height and 5—6,5 mm diameter, consisting of low, overlapping segments, the height of which is 1,4—1,8 mm. The chambers are filled with fairly regular trabecular filling structure; both the pillars and the pores seem to be arranged in one row and seem to continue through more chambers. So, this structure is resembling to that of certain groups of hydrozoans, that is the segment-roofs may be interpreted as rim-like thickening of the pillars at regular intervals, leaving hollows between these thickenings, which are the pores. These pores are quite different from those of *S. dehmi*, the arrangement of which is independent of the thickened ends of the pillars. The thickness of these segment-roofs is 0,2—0,35 mm, the diameter of the trabeculae on their middle part is 0,2—0,3 mm, that of the pores is 0,15—0,30 mm.

Remarks: This form differs from *Stylothalamia* n. sp. A by its thinner skeleton and higher segments, from *S. dehmi* by the above mentioned regularity of the trabeculae and the pores.

Locality: On the southern slope of Alsóhegy, east of the Tapolca-springs.

Stylothalamia n. sp. C

Pl. VII, *Fig. 2*

Material: One exemplar in thin section 22/1972.

Description: A slightly oblique section of a max. 7,3 mm wide, 17,5 mm high stem, consisting of 11 flat, overlapping segments. In the 0,9—1,4 mm high chambers rare pillars of 0,1—0,3 mm diameter constitute the trabecular filling structure. The pillars are somewhat thickened at their ends. The thickness of the segment-roofs is 0,3—0,5 mm and remains uniform within one segment. They are pierced by pores of 0,08—0,12 mm diameter. These pores are tube-like and their diameter remains the same all over their length.

Remarks: This form stands nearest to the specimens of *S. dehmi* found on Alsóhegy, but differs from them by its considerably thicker walls and more slender shape.

Locality: On the side of the forestry road from Bódvaszilas to Szabó-parlag.

Stylothalamia n. sp. D

Pl. VII, *Fig. 3*

Material: One exemplar in thin section T—24.

Description: A slightly oblique section of a 16 mm long, 6 mm wide stem, consisting of 16, flat, overlapping segments of about 1 mm height. The thickness of the wall is 0,3—0,5 mm and differs from that of *Stylothalamia* n. sp. C since the segment-roofs are not uniformly thick, become thinner toward the pores. Rare

pillars of 0,1—0,5 mm thickness, thickened at their ends, constitute the trabecular filling structure. The diameter of the pores, which funnel-like widen out upwardly, is 0,1—0,2 mm. Vesiculae are not present. The walls are completely recrystallized, and so are the filling of the chambers on some places, too.

Remarks: This form resembles to *Stylothalamia* n. sp. B in the unevenly thick segment-roofs, but differs from it by the smaller chamber-height and the coarser skeleton.

Locality: On the edge of the plateau, NNW of Pasnyak-spring.

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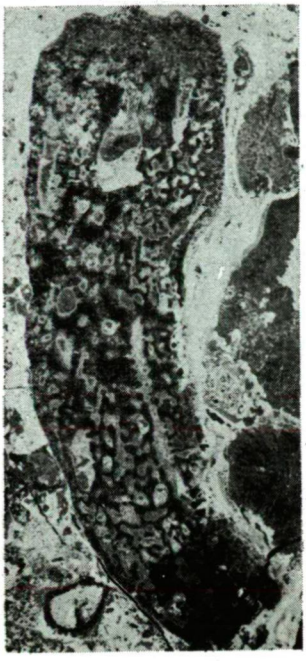

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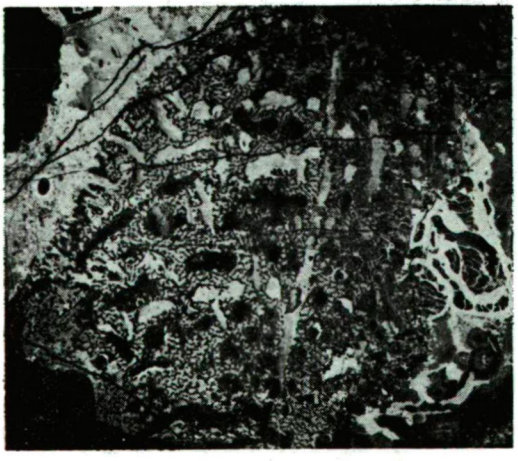

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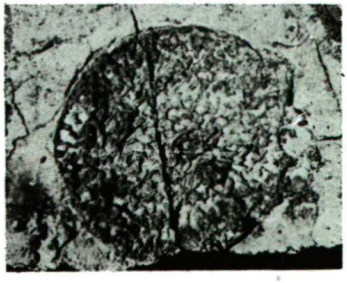

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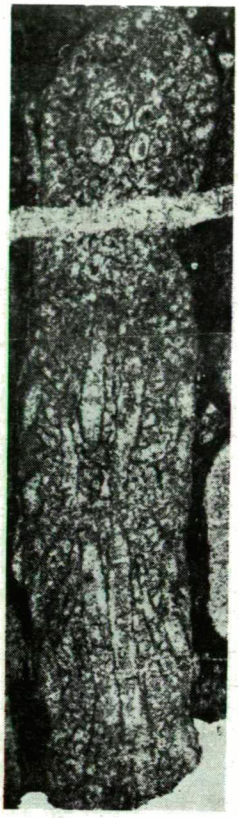

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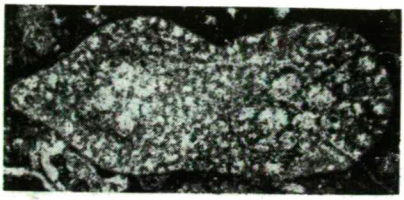

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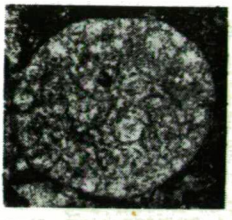

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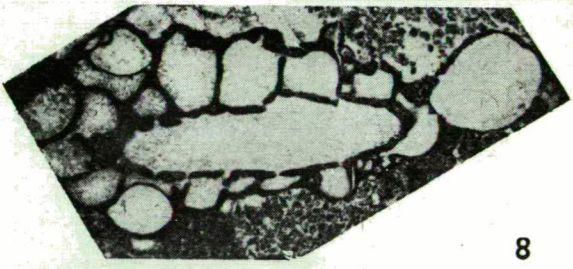

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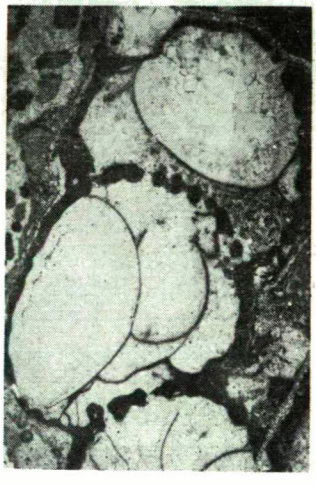

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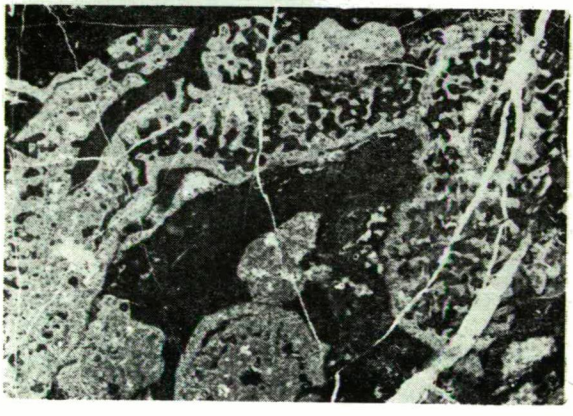

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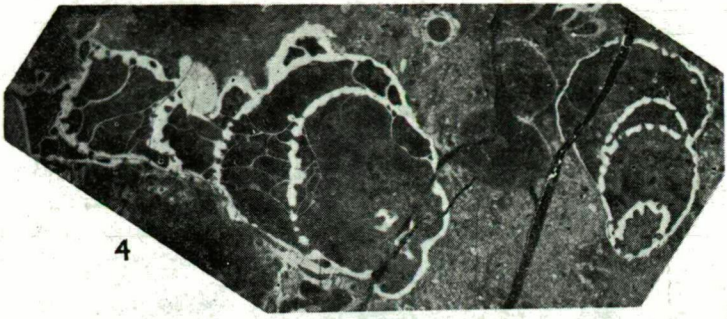
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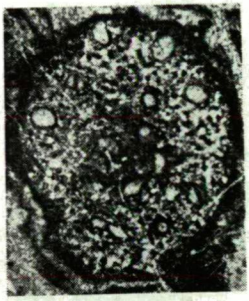
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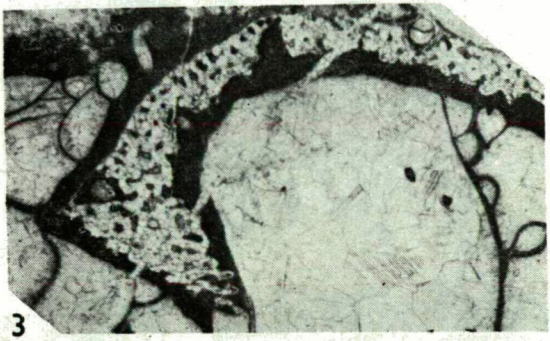
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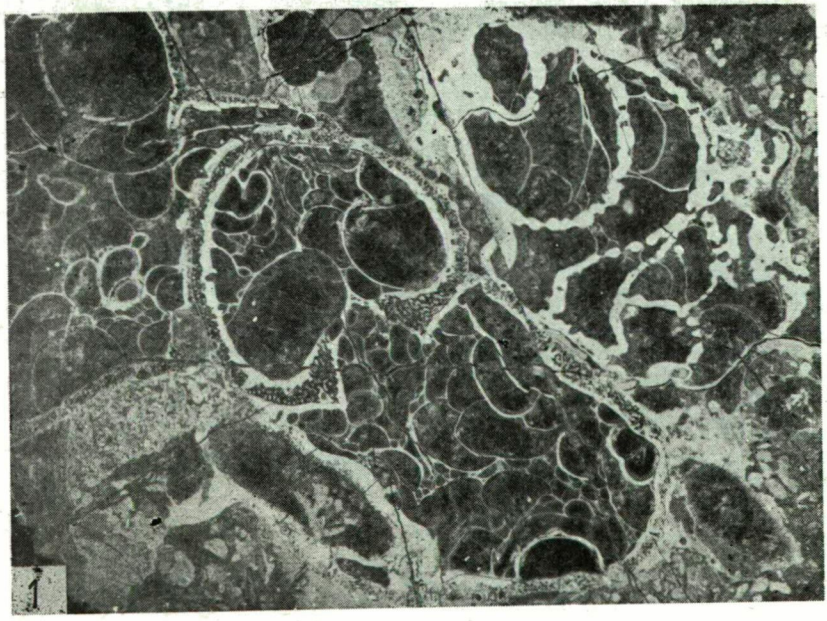
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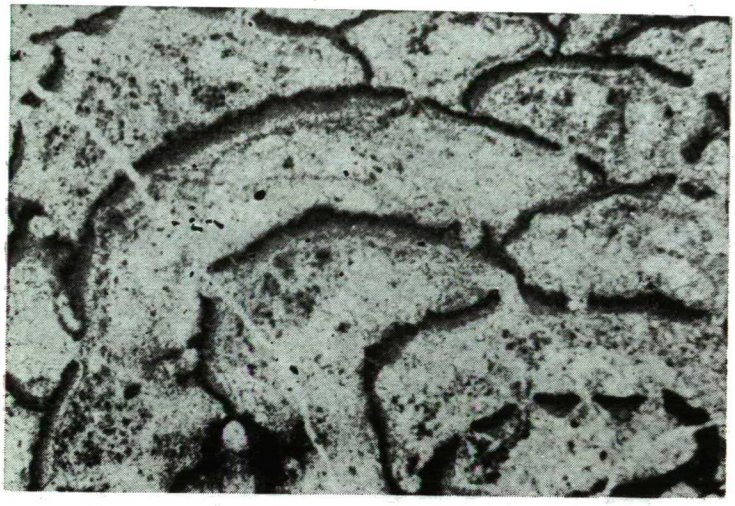

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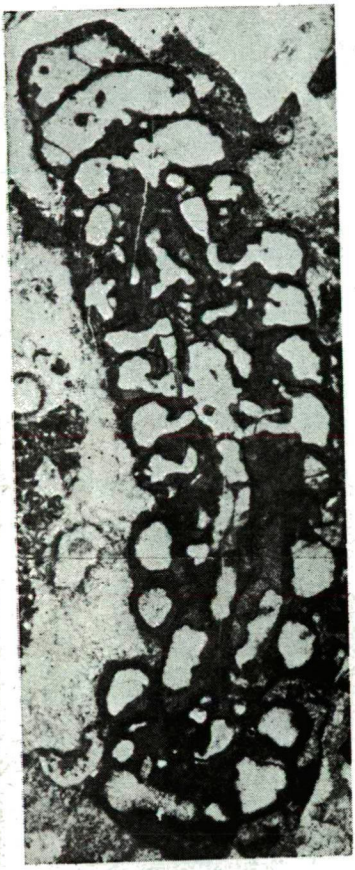

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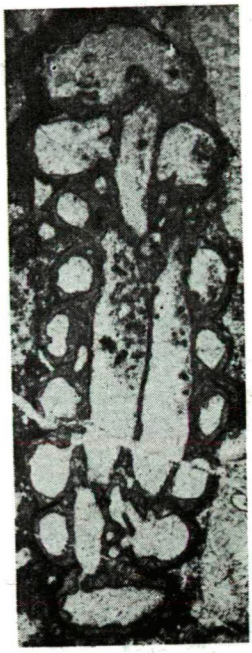

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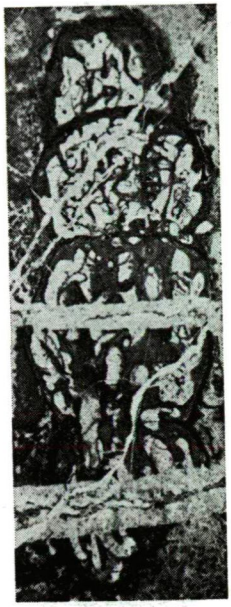

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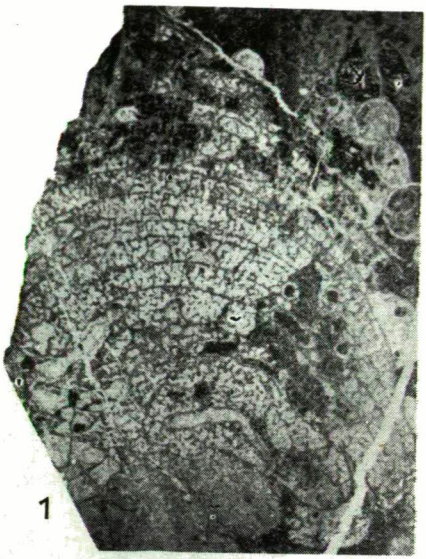
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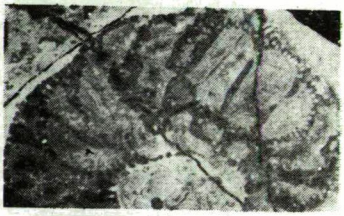
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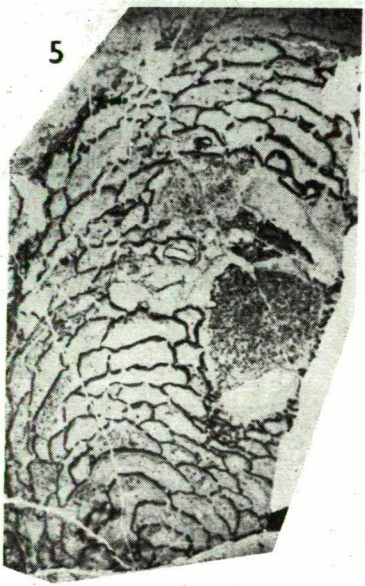
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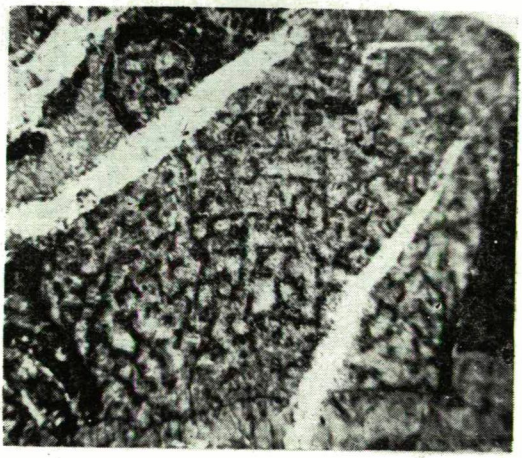
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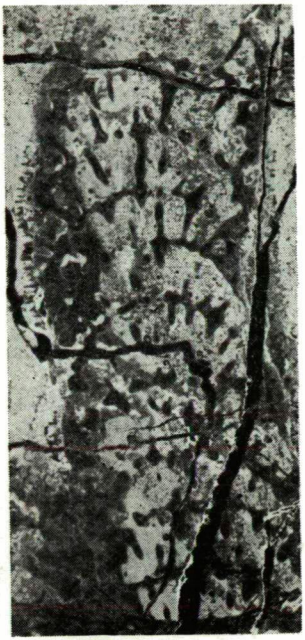

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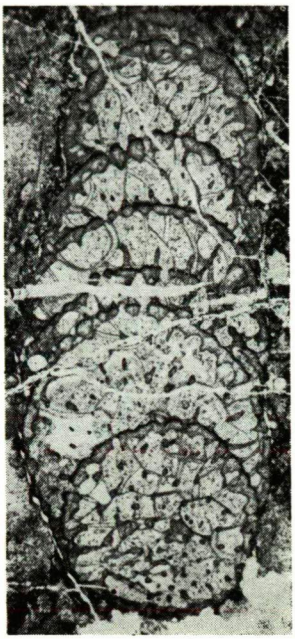

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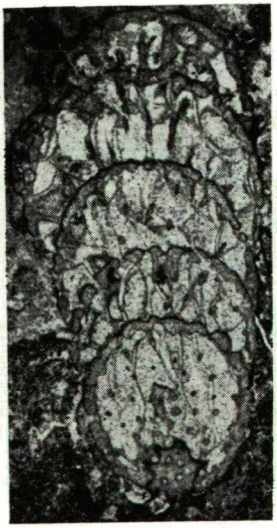

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